2.2.3.9 Central Lake Michigan Coastal Ecological Landscape

Figure 2-27. Central Lake Michigan Coastal Ecological Landscape.

General Description

The Central Lake Michigan Coastal Ecological Landscape stretches from southern Door County west across Green Bay to the Wolf River drainage, then southward in a narrowing strip along the Lake Michigan shore to central Milwaukee County (Figure 2-27). Owing to the influence of Lake Michigan in the eastern part of this Ecological Landscape, summers are cooler, winters are warmer, and precipitation levels are greater than at locations farther inland.

Dolomites and shales underlie the glacial deposits that blanket virtually all of the Central Lake Michigan Coastal Ecological Landscape. The dolomite Niagara Escarpment is the major bedrock feature, running across the entire landscape from northeast to southwest. Series of dolomite cliffs provide critical habitat for rare terrestrial snails, bats, and specialized plants. The primary glacial landforms are ground moraine, outwash, and lakeplain. The topography is generally rolling where the surface is underlain by ground moraine, variable over areas of outwash, and nearly level where lacustrine deposits are present. Important soils include clays, loams, sands, and gravels. Certain landforms, such as sand spits, clay bluffs, beach and dune complexes, and ridge and swale systems, are associated only with the shorelines of Lake Michigan and Green Bay.

Vegetation

Historically, most of this Ecological Landscape was vegetated with mesic hardwood forest composed primarily of sugar maple, basswood, and beech. Hemlock and white pine were locally important, but hemlock was generally restricted to cool moist sites near Lake Michigan. Areas of poorly drained glacial lakeplain supported wet forests of tamarack, white cedar, black ash, red maple, and elm, while the Wolf and Embarrass Rivers flowed through extensive floodplain forests of silver maple, green ash, and swamp white oak. Emergent marshes and wet meadows were common in and adjacent to lower Green Bay, while Lake Michigan shoreline areas featured beaches, dunes, interdunal wetlands, marshes, and highly diverse ridge and swale vegetation. Small patches of prairie and oak savanna were present in the southwestern portion of this landscape.

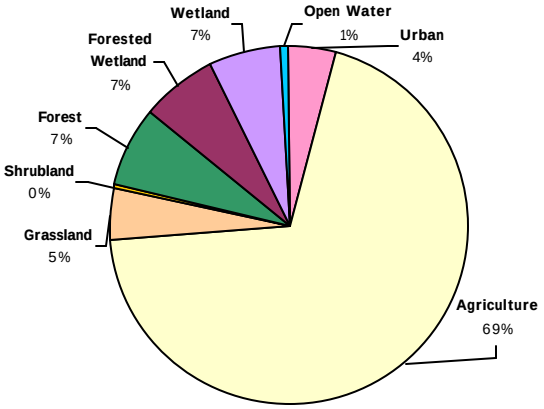

Figure 2-28. Current land cover in the Central Lake Michigan Coastal Ecological Lands cape.

Most of the upland forest has been removed over the past 150 years as the land was converted to agricultural, residential, and industrial uses. Today approximately 84% of this Ecological Landscape is non-forested (Figure 2-28). The remaining forest consists mainly of mesic maple-basswood or maple-beech types, or lowland hardwoods composed of soft maples, ashes, and elms. Fragmentation of upland habitats is severe throughout this Ecological Landscape. Invasive species have become a major concern in both terrestrial and aquatic habitats. Reed canary grass, giant reed, purple loosestrife, garlic mustard, Eurasian buckthorns and honeysuckles, and carp are especially troublesome. Significant wetlands are still present, but most have been affected to some degree by hydrologic disruption, pollution, sedimentation, and the encroachment of invasive species. Large acreages of marsh in Lower Green Bay have been filled to accommodate urban development.

Hydrologic Features

The biota is especially noteworthy for the rare regional endemic plants and animals associated with Lake Michigan shoreline habitats, and the highly specialized animals inhabiting the Niagara Escarpment. The

coastal areas annually host significant concentrations of migratory birds, especially during the spring migration period. The waters of Lake Michigan and Green Bay, and the Wolf-Embarrass River corridors, provide seasonally critical habitat for numerous animals. Lakes are uncommon and most of them have been at least partially developed. The Central Lake Michigan Coastal Ecological Landscape has the worst relative pollution ratings for watersheds and streams. Thirty of the 31 watersheds in the Ecological Landscape are more highly polluted than most other watersheds in the state, according to rankings by the Wisconsin DNR.

Land Use

The total land area for the Central Lake Michigan Coastal Ecological Landscape is approximately 1.8 million acres, of which only 16% is classified as timberland (Figure 2-29). Public lands make up less than 3% of this Landscape, but include several notable and heavily-visited state properties such as Harrington Beach and Kohler-Andrae State Parks, Point Beach State Forest, and Collins Marsh State Wildlife Area.

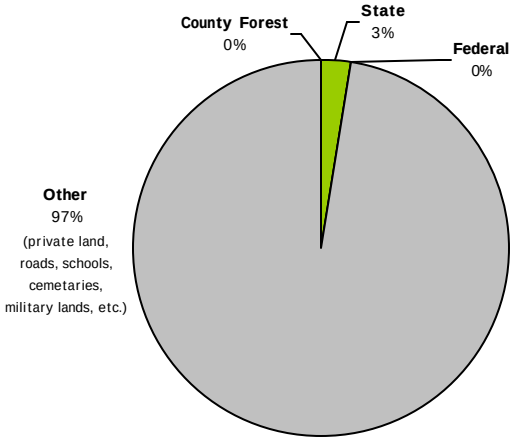

Figure 2-29. Public land ownership in the Central Lake Michigan Coastal Ecological Landscape.

Socioeconomics

Socioeconomic data are summarized based on county-level approximations of the Ecological Landscape (referred to as a "region"). Economic data are available only on a political unit basis with counties as the smallest unit. The counties included in this socioeconomic region are Brown, Calumet, Kewaunee, Manitowoc, Outagamie, Ozaukee, Sheboygan, and Waupaca ("Central Lake Michigan Coastal Region").

Agriculturally, the Central Lake Michigan Coastal Region is very productive. It has the third highest percentage of farmland acreage, the highest milk production per acre and the second highest per acre market value of agricultural products among all of the state regions. In terms of water usage, over 92% in the Central Lake Michigan Coastal Region is used for thermoelectric power generation. Manitowoc County alone accounts for 45% of water usage in the region, almost entirely for this purpose. Note that farmland is defined as all land under farm ownership, which includes cropland, pastureland, woodland, and other.

Compared to other state regions, the Central Lake Michigan Coastal Region is very densely populated with a young, well-educated and racially diverse population. The population density of the region (184 persons/mi^2) is about twice that of the state as a whole (96 persons/mi^2). Among state regions, the Central Lake Michigan Coastal Region has the second highest percentage of people under 20 years old and a below-average proportion of elderly (over 65 years old). In addition, this region has the fourth highest nonwhite population, mostly due to the presence of a large number of Hispanics. It also has a slightly higher percentage of both high school and college graduates.

Economically, the region is relatively prosperous. The Central Lake Michigan Coastal Region has the state's highest per capita income, the second highest average wage, and the second lowest rates of unemployment and adult and child poverty. The economy depends heavily on manufacturing and much less on the government sector. Both the agriculture and service sectors have below-average representation in the job market in this region.

Management Opportunities

- Protect unique Great Lakes coastal features such as beach and dune systems, forested ridge and swale complexes, Great Lakes marshes, and alvar (a rare community characterized by thin soil over limestone).
- Protect sensitive stretches of the Niagara Escarpment, a globally significant geologic feature that supports many rare and specialized organisms.
- Expand protection for Lake Michigan shoreline habitats, especially those areas receiving heavy use by migratory birds, fish, and colonial birds.
- Expand protection for the Wolf and Embarrass River corridors.
- Connect habitat remnants where possible, especially along shorelines and stream corridors.

Natural Communities

The following table (Table 2-11) lists the natural communities occurring in the Central Lake Michigan Coastal arranged by the level of opportunity to sustain and manage the community type in this Ecological Landscape. For further explanation of natural communities and opportunities to sustain them, see Section 3.3.

Table 2-11. Natural communities occurring in the Central Lake Michigan Coastal arranged by the level of opportunity to sustain and manage the natural community type in this Ecological Landscape.

Major Opportunity	Important Opportunity	Present
Alvar	Northern Dry-Mesic Forest	Southern Hardwood Swamp
	Northern Hardwood Swamp	Cedar Glade
	Northern Mesic Forest	Emergent Aquatic-Wild Rice
	Northern Wet-Mesic Forest	Alder Thicket
	Northern Wet Forest	Bog Relict
	Floodplain Forest	Open Bog
	Southern Dry-Mesic Forest	
	Southern Mesic Forest	
	Emergent Aquatic	
	Submergent Aquatic	
	Ephemeral Pond	
	Interdunal Wetland	
	Northern Sedge Meadow	
	Shrub Carr	
	Southern Sedge Meadow	
	Bedrock Glade	
	Clay Seepage Bluff	
	Moist Cliff	